NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

Structural Composites of Indiana, Inc.
1118 Gerber Street
Ligonier, Indiana 46767

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 113-11385-00074	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary customized fiberglass parts manufacturing plant.

Authorized Individual:	James Fearnow
Source Address:	1118 Gerber Street, Ligonier, Indiana 46767
Mailing Address:	1118 Gerber Street, Ligonier, Indiana 46767
Phone Number:	219-894-4312
SIC Code:	3089
County Location:	Noble
County Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Rules Minor Source, under Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, approximate capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, approximate capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(f) One (1) grinding booth equipped with grinders, diamond cutters and various hand tools, with dry filters for air pollution control.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22)

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled “Minor Source Operating Permit”, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.

(1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.

(b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source

Performance Standards (NSPS) shall be applicable to each individual phase.

(c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

(d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

(e) Pursuant to 326 IAC 2-7-4(a)(1)(A)(ii) and 326 IAC 2-5.1-4, the Permittee shall apply for a Title V operating permit within twelve (12) months of the date on which the source first meets an applicability criterion of 326 IAC 2-7-2.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

(a) The total source potential to emit of VOC and the potential to emit after controls of all criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

(b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Source Modification [326 IAC 2-7-10.5]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-10.5 whenever the Permittee seeks to construct new emissions units, modify existing emissions units, or otherwise modify the source.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

C.4 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
[326 IAC 2-7-6(6)]

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduc-

tion of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM, within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. All monitoring and record keeping requirements shall be implemented upon initial operation. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within “normal” parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 Annual Emission Statement [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered

timely if received by IDEM, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) A malfunction as described in 326 IAC 1-6-2; or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.20 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

(c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

(d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description - A customized fiberglass parts manufacturing source consisting of the following:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, approximate capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, approximate capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 New Source Toxics Control [326 IAC 2-4.1-1]

Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new customized fiberglass part manufacturing source shall be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 100 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) The emission factors approved for use by IDEM, OAM shall be taken from the following reference: “Unified Emission Factors for Open Molding of Composites,” Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA’s AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Production[1] Gel Coat	37
Tooling[2] Gel Coat	38
Production Resin	35
Tooling Resin	43

[1] Production refers to the manufacture of parts.
[2] Tooling refers to the manufacture of the molds from which parts are manufactured.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

Gel coats or resins with HAP monomer contents lower than those specified in the table in this subsection or additional emission reduction techniques approved by IDEM, OAM may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from higher than compliant HAP monomer content resin or gel coat) -(Emissions from compliant resin or gel coat) # (Emissions from compliant resin or gel coat) - (Emissions from lower than compliant HAP monomer content resin or gel coat and/or using other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) *
EF (HAP monomer emission factor for resin or gel coat used, %);

EF, HAP monomer emission factor = emission factor, expressed as pounds (lbs) HAP emitted per ton of resin/gel coat processed, which is indicated by the HAP monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are

not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

(d) Optimized spray techniques according to a manner approved by IDEM, OAM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) For VOC- and/or HAP-containing materials:

(i) Cleanup solvent containers shall be used to transport solvent from drums to work.

(ii) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.

(iii) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(iv) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(v) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(3) All material storage containers shall be kept covered when not in use.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The PM from the gelcoat booth, lamination booth and mold preparation and finish area shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this emissions unit and any control devices.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the volatile organic HAP limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.5 Volatile Organic HAPs

Compliance with the volatile organic HAP content and usage limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.6 Volatile Organic HAPs Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic HAP usage for the most recent twelve (12) month period.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.7 Particulate Matter (PM)

The dry filters for PM control shall be in operation at all times when the gelcoat booth, lamination booth and mold preparation and finish area are in operation.

D.1.8 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the gelcoat booth, lamination booth and mold preparation and finish area stacks while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.9 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the volatile organic HAP usage limits and/or the volatile organic HAP content limits established in Condition D.1.1.

(1) The amount, VOC content and volatile organic HAP content of each resin and gelcoat. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The HAP monomer content for resins and gelcoats calculated on an equivalent mass basis for each month in which noncompliant resins or gelcoats are used.

(4) The cleanup solvent usage for each month;

(5) The total VOC and volatile organic HAP usage for each month; and

(6) The weight of VOCs and volatile organic HAPs emitted for each compliance period.

(b) To document compliance with Condition D.1.7 and D.1.8, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) One (1) grinding booth equipped with grinders, diamond cutters and various hand tools, with dry filters for air pollution control.

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the wood-working facilities shall not exceed 2.44 pounds per hour when operating at a process weight rate of 920 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.3 Particulate Matter (PM)

The grinding booth dry filters for PM control shall be in operation at all times when the grinding booth is in operation.

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section
Quarterly Report

Company Name: Structural Composites of Indiana, Inc.
Location: 1118 Gerber Street, Ligonier, Indiana 46767
Permit No.: MSOP 113-11385-00074
Source/Facility: Customized Fiberglass Part Manufacturing Source
Pollutant: Volatile Organic HAP emissions
Limit: Less than 100 tons per consecutive twelve (12) month period

Year:_____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	**Structural Composites of Indiana, Inc.**
Address:	**1118 Gerber Street**
City:	**Ligonier, Indiana 46767**
Phone #:	**219 - 894 - 4312**
MSOP #:	**MSOP 113-11385-00074**

I hereby certify that Structural Composites of Indiana, Inc. is

9 still in operation.
9 no longer in operation.

I hereby certify that Structural Composites of Indiana, Inc. is

9 in compliance with the requirements of MSOP 113-11385-00074.
9 not in compliance with the requirements of MSOP 113-11385-00074.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name: **Structural Composites of Indiana, Inc.**
Source Location: **1118 Gerber Street, Ligonier, Indiana 46767**
County: **Noble**
Construction Permit No.: **MSOP 113-11385-00074**
SIC Code: **3089**
Permit Reviewer: **Patrick T. Brennan**

On December 29, 1999, the Office of Air Management (OAM) had a notice published in the News/Sun, Kendallville, Indiana, stating that Structural Composites of Indiana, Inc. had applied for a construction permit to construct and operate the customized fiberglass parts manufacturing plant with dry filters for air pollution control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On February 4, 2000, Teri L. Schenk, on behalf of Structural Composites, submitted comments on the proposed construction permit. The comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded.**

Comment 1:

Page 4 of 24 A.2: We would like a provision written into this area which states that the description Facility Description 325 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 1:

The second sentence of the introduction to Section A, page 4 of 24, states "The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions."

Comment 2:

Page 4 of 24 A.2 items a & b: The source has agreed to take a 100 ton facility cap on emissions. Limiting the amount of resin and gelcoat per hour should be at their discretion. Part sizes vary, calculations are based on worst case scenario and as long as they stay under the 100 ton per 12 consecutive months, there should be no limits per hour.

Response 2:

OAM recognizes that the capacity descriptions in the equipment list do not represent enforceable hourly limits. The descriptions for items (a) and (b) have have been changed as follows:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

Comment 3:

Page 17 of 24 Section D.1: We would like a provision written into this box area which states the following: Facility Description 326 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 3:

The emissions unit description box in Section D.1 has been changed as follows:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description - A customized fiberglass part manufacturing source consisting of the following:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

Source Background and Description

Source Name:	**Structural Composites of Indiana, Inc.**
Source Location:	**1118 Gerber Street, Ligonier, Indiana 46767**
County:	**Noble**
SIC Code:	**3089**
Operation Permit No.:	**MSOP 113-11385-00074**
Permit Reviewer:	**Patrick T. Brennan**

The Office of Air Management (OAM) has reviewed an application from Structural Composites of Indiana, Inc. relating to the construction and operation of a customized fiberglass parts manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

There are no permitted facilities operating at this source during this review process.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment::

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, maximum capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, maximum capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(f) One (1) grinding booth equipped grinders, diamond cutters and various hand tools, with dry filters for air pollution control.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
GB 01-03	Gelcoat Booth	3.0	2.5	6,600	70
LB 04-07	Lamination Booth	3.0	2.5	6,600	70
GRD 08-11	Grinding Both	3.0	2.5	6,600	70
MR 12-13	Mold Repair	3.0	2.5	6,600	70

Note: All stacks are horizontal through the side walls of the building.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 28, 1999, with additional information received on December 9, 1999.

Emission Calculations

See pages 1 through 4 of Appendix A of this document (Emissions Calculations Spreadsheets) for detailed calculations of emissions from open molding fiberglass operations, grinding and natural gas combustion. The VOC (styrene) emissions from the open molding fiberglass operations are computed using the Unified Emissions Factors provided by the Composite Fabricators Association (CFA). VOC emissions from the resin storage tank were calculated to be 60.8 pounds per year using the Tanks 3.0 program.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	**Potential To Emit** (tons/year)
PM	692
PM_{10}	692
SO_2	0.0004
VOC	243
CO	0.055
NO_X	0.066

HAPs	**Potential To Emit** (tons/year)
Styrene	219
Methyl Methacrylate	24.0
Benzene	1.38E-6
Dichlorobenzene	7.88E-7
Formaldehyde	4.93E-5
Hexane	1.18E-3
Toluene	2.23E-6
Lead	3.29E-7
Cadmium	7.23E-7
Chromium	9.20E-7
Manganese	2.50E-7
Nickel	1.38E-6
TOTAL	243

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of Volatile Organic Compounds (VOC) and Particulate Matter (PM) are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

Because this is a new source, no previous emission data is available.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units. The source has agreed to accept a volatile organic HAPS limit of less that 100 tons per year in order to comply with 326 IAC 2-4.1-1 (New Source Toxics Control) and 326 IAC 8-1-6 (Best Available Control Technology). Because all significant VOC emissions from the source are volatile organic HAPs from fiberglass operations, this limit is also assumed to apply to VOC emissions. Emissions of PM and PM_{10} have been adjusted to reflect the reduced operating hours necessary to meet the volatile organic HAP limit and for the use of dry filters.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Gelcoat and Lamination Operations	4.15	4.15	0.0	<100	0.0	0.0	<100
Grinding	0.117	0.117	0.0	0.0	0.0	0.0	0.0
Resin Storage Tank	0.0	0.0	0.0	0.031	0.0	0.0	0.0
Combustion	0.001	0.005	0.0004	0.004	0.055	0.066	0.0
Total Emissions	4.27	4.27	0.0004	<100	0.055	0.066	<100

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed

pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Noble County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	**Emissions** (ton/yr)
PM	4.27
PM_{10}	4.27
SO_2	0.0004
VOC	<100
CO	0.055
NO_X	0.066
Single HAP	90.1
Combination HAPS	<100

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,

(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, and

(c) any combination of HAPS is greater than or equal to 25 tons/year.

This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) The resin storage tank is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110, Subpart Kb, because the capacity of the tank is less than 40 cubic meters.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC and $PM_{10.}$ Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemption Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

Since this new source has a potential to emit greater than 10 tons per year of any single HAP and 25 tons per year of any combination of HAPs, the requirements of 326 IAC 2-4.1-1 will apply. Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new customized fiberglass parts manufacturing operation shall be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 100 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) The emission factors approved for use by IDEM, OAM shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Production[1] Gel Coat	37
Tooling[2] Gel Coat	38
Production Resin	35
Tooling Resin	43

[1] Production refers to the manufacture of parts.
[2] Tooling refers to the manufacture of the molds from which parts are manufactured.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

Gel coats or resins with HAP monomer contents lower than those specified in the table in this subsection or additional emission reduction techniques approved by IDEM, OAM may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from higher than compliant HAP monomer content resin or gel coat) -(Emissions from compliant resin or gel coat) # (Emissions from compliant resin or gel coat) - (Emissions from lower than compliant HAP monomer content resin or gel coat and/or using other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (HAP monomer emission factor for resin or gel coat used, %);

EF, HAP monomer emission factor = emission factor, expressed as pounds (lbs) HAP emitted per ton of resin/gel coat processed, which is indicated by the HAP monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

(d) Optimized spray techniques according to a manner approved by IDEM, OAM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) For VOC- and/or HAP-containing materials:

(i) Cleanup solvent containers shall be used to transport solvent from drums to work.

(ii) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.

(iii) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(iv) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(v) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(3) All material storage containers shall be kept covered when not in use.

326 IAC 6-3-2 (Process Operations)

a. The particulate matter (PM) emissions from the grinding booth (GRD 08-11) will be limited to 2.44 pounds per hour when operating at a process weight rate of 920 pounds per hour. Since potential PM emissions after control by the dry filters are 0.066 pounds per hour, the grinding operations will comply with this rule. Compliance will be demonstrated by operating the dry filters at all times when the grinding is taking place.

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

$E = 4.10\ (0.46\ \text{tons/hr})^{0.67} = 2.44$ pounds per hour.

b. The particulate matter (PM) emissions from the gelcoat booth, lamination booth and mold preparation and final finish area will each be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

Compliance will be demonstrated by operating the dry filters at all times when the gelcoat booth, lamination booth and mold preparation and final finish area are in operation.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The new source is subject to 326 IAC 8-1-6 because the VOC potential emissions are greater than 25 tons per year, shall commence operation after January 1, 1980 and is governed by no other provisions of Article 8. Pursuant to this rule, a Best Available Control Technology (BACT) Analysis is required. This customized fiberglass parts manufacturing facility has not been constructed yet and the potential VOC emissions are 246 tons per year. Since 326 IAC 2-4.1-1 (New Source Toxics Control) is the most stringent authority for controlling VOC/HAPs emissions, the MACT determined under 326 IAC 2-4.1-1 shall be the BACT and shall satisfy the requirements of 326 IAC 8-1-6 (BACT).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows:

The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

(b) The applicant has been notified in writing that the air toxic emissions exceed the major source applicability levels stated by Section 112 of the Clean Air Act Amendments, and that it would be beneficial, both to the applicant and to the public, for the applicant to take steps to reduce or eliminate these air toxic emissions.

(c) See attached calculations in pages 1 through 4 of Appendix A to this document for detailed air toxic calculations.

Conclusion

The construction and operation of this the customized fiberglass parts manufacturing plant shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit MSOP 113-11385-00074.

Reinforced Plastics and Composites

Company Name: Structural Composites of Indiana, Inc.
Address City IN Zip: 1118 Gerber Street, Ligonier, Indiana 46563
MSOP: 113-11385
Plt ID: 113-00074
Reviewer: Patrick Brennan/MES
Date: September 28, 1999

Material (Application Method)	Density (lb/gal)	Weight % Monomer VOC	CFA Unified Emission Factor (lbs/ton)	Gallons per unit	Units per hour	Pounds VOC per hour	Pounds VOC per day	Tons of VOC per year	PM tons per year	Transfer Efficiency
Polar White Gelcoat										
(Air Assisted Airless)										
Styrene	10.88	32.0%	284.80	0.84	20.00	26.03	624.68	114.00	128.10	75.00%
Methyl Methacrylate	10.88	4.0%	60.00	0.84	20.00	5.48	131.60	24.02	0.00	75.00%
Tooling Gelcoat										
(Air Assisted Airless)										
Styrene	9.86	36.9%	377.00	0.0134	1.00	0.0250	0.60	0.109	0.092	75.00%
Methyl Methacrylate	9.86	3.0%	45.00	0.0134	1.00	0.00	0.07	0.01	0.00	75.00%
Resin Layup (Flow Coat)										
Styrene	9.40	31.0%	66.34	3.83	20.00	23.88	573.21	104.61	544.03	75.00%
Tooling Resin (Flow Coat)										
Styrene	10.00	47.0%	115.00	0.134	1.000	0.077	1.85	0.34	0.78	75.00%
Clean-up solvent - Acetone	6.88	0.0%	0.00	0.16	20.00	0.00	0.00	0.00	0.00	100.00%
				Total		**55.50**	**1332.02**	**243.09**	**672.99**	
				VOC Control	0%					
				PM Control	98.5%					
				Potential Before Controls				**243.09**	**672.99**	
				Potential After Controls				**243.09**	**10.09**	
				With VOC Limited to less than 100 tons per year, Limited PM after controls =					4.15	

Note: Because All VOCs are HAPs, VOC and HAPs calculations are combined into one spreadsheet

METHODOLOGY

Potential VOC Pounds per Hour =Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * Emission factor (lb/ton)*(1 ton/2000 lbs)
Potential VOC Pounds per Day =Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * (24 hrs / 1 day) * Emission factor(lb/ton)*(1 ton/2000 lbs)
Potential VOC Tons per Year = Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * (8760 hr/yr) * (1 ton / 2000 lbs) * Emission factor(lb/ton)*(1 ton/2000lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1 - Weight % Volatiles) * (1 - Transfer efficiency) * (8760 hr/yr) * (1 ton / 2000 lbs)
Total = Sum of all worst case coatings and solvents used
Emission Factor (lbs VOC/ton) taken from "Unified Emission Factors for Open Molding of Composites", Composite Fabricators Association (CFA), April 1999

Appendix A: Emission Calculations
Grinding Operations

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
Plt ID: **113-00074**
Reviewer: **Patrick Brennan/MES**
Date: **September 28, 1999**

Control Efficiency*
98.5%

Emission Rates at the new source.

Facility	Potential Process weight rate of new booth (lbs/hr)	Potential Emissions from similar source (tons PM/ yr)	Process weight rate from similar source (lbs/hr)	Emission Factor (lbs PM /lb grinded)	PM Emission Rate before Controls (lbs/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Grinding Booth	919.8	8.76	420	0.0048	4.38	19.2	0.066	0.288
Total	919.8				**4.38**	**19.2**	**0.066**	**0.288**

*The control efficiency listed is the efficiency of a dry filter. The source may simultaneously operate a water wash system with a control efficiency of 95%.

Methodology

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the similar Global Glass, Inc. source (tons /yr) * (2000 lbs/ton / 8760 hrs/yr) / process weight rate of similar source (lbs /hr)
Emission Rate at new source before controls in lbs/hr = process weight rate (lbs/hr) * Emission Factor (lbs of PM /lb grinded)
Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) * (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
Grinding Booth	919.8	0.460	2.44	10.7

Methodology

Allowable Emissions = 4.10(Process Weight Rate)^0.67

Appendix A: Emission Calculations
Grinding Operations

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
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Date: **September 28, 1999**

Control Efficiency*
98.5%

Emission Rates at the new source.

Facility	Potential Process weight rate of new booth (lbs/hr)	Potential Emissions from similar source (tons PM/ yr)	Process weight rate from similar source (lbs/hr)	Emission Factor (lbs PM /lb grinded)	PM Emission Rate before Controls (lbs/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Grinding Booth	919.8	8.76	420	0.0048	4.38	19.2	0.066	0.288
Total	919.8				**4.38**	**19.2**	**0.066**	**0.288**

*The control efficiency listed is the efficiency of a dry filter. The source may simultaneously operate a water wash system with a control efficiency of 95%.

Methodology

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the similar Global Glass, Inc. source (tons /yr) * (2000 lbs/ton / 8760 hrs/yr) / process weight rate of similar source (lbs /hr)
Emission Rate at new source before controls in lbs/hr = process weight rate (lbs/hr) * Emission Factor (lbs of PM /lb grinded)
Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) * (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
Grinding Booth	919.8	0.460	2.44	10.7

Methodology

Allowable Emissions = 4.10(Process Weight Rate)^0.67

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name: **Structural Composites of Indiana, Inc.**
Source Location: **1118 Gerber Street, Ligonier, Indiana 46767**
County: **Noble**
Construction Permit No.: **MSOP 113-11385-00074**
SIC Code: **3089**
Permit Reviewer: **Patrick T. Brennan**

On December 29, 1999, the Office of Air Management (OAM) had a notice published in the News/Sun, Kendallville, Indiana, stating that Structural Composites of Indiana, Inc. had applied for a construction permit to construct and operate the customized fiberglass parts manufacturing plant with dry filters for air pollution control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On February 4, 2000, Teri L. Schenk, on behalf of Structural Composites, submitted comments on the proposed construction permit. The comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded.**

Comment 1:

Page 4 of 24 A.2: We would like a provision written into this area which states that the description Facility Description 325 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 1:

The second sentence of the introduction to Section A, page 4 of 24, states "The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions."

Comment 2:

Page 4 of 24 A.2 items a & b: The source has agreed to take a 100 ton facility cap on emissions. Limiting the amount of resin and gelcoat per hour should be at their discretion. Part sizes vary, calculations are based on worst case scenario and as long as they stay under the 100 ton per 12 consecutive months, there should be no limits per hour.

Response 2:

OAM recognizes that the capacity descriptions in the equipment list do not represent enforceable hourly limits. The descriptions for items (a) and (b) have have been changed as follows:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

Comment 3:

Page 17 of 24 Section D.1: We would like a provision written into this box area which states the following: Facility Description 326 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 3:

The emissions unit description box in Section D.1 has been changed as follows:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description - A customized fiberglass part manufacturing source consisting of the following:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Reinforced Plastics and Composites

Company Name: Structural Composites of Indiana, Inc.
Address City IN Zip: 1118 Gerber Street, Ligonier, Indiana 46563
MSOP: 113-11385
Plt ID: 113-00074
Reviewer: Patrick Brennan/MES
Date: September 28, 1999

Material (Application Method)	Density (lb/gal)	Weight % Monomer VOC	CFA Unified Emission Factor (lbs/ton)	Gallons per unit	Units per hour	Pounds VOC per hour	Pounds VOC per day	Tons of VOC per year	PM tons per year	Transfer Efficiency
Polar White Gelcoat										
(Air Assisted Airless)										
Styrene	10.88	32.0%	284.80	0.84	20.00	26.03	624.68	114.00	128.10	75.00%
Methyl Methacrylate	10.88	4.0%	60.00	0.84	20.00	5.48	131.60	24.02	0.00	75.00%
Tooling Gelcoat										
(Air Assisted Airless)										
Styrene	9.86	36.9%	377.00	0.0134	1.00	0.0250	0.60	0.109	0.092	75.00%
Methyl Methacrylate	9.86	3.0%	45.00	0.0134	1.00	0.00	0.07	0.01	0.00	75.00%
Resin Layup (Flow Coat)										
Styrene	9.40	31.0%	66.34	3.83	20.00	23.88	573.21	104.61	544.03	75.00%
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Styrene	10.00	47.0%	115.00	0.134	1.000	0.077	1.85	0.34	0.78	75.00%
Clean-up solvent - Acetone	6.88	0.0%	0.00	0.16	20.00	0.00	0.00	0.00	0.00	100.00%
				Total		**55.50**	**1332.02**	**243.09**	**672.99**	
				VOC Control	0%					
				PM Control	98.5%					
				Potential Before Controls				**243.09**	**672.99**	
				Potential After Controls				**243.09**	**10.09**	
				With VOC Limited to less than 100 tons per year, Limited PM after controls =					4.15	

Note: Because All VOCs are HAPs, VOC and HAPs calculations are combined into one spreadsheet

METHODOLOGY

Potential VOC Pounds per Hour =Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * Emission factor (lb/ton)*(1 ton/2000 lbs)
Potential VOC Pounds per Day =Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * (24 hrs / 1 day) * Emission factor(lb/ton)*(1 ton/2000 lbs)
Potential VOC Tons per Year = Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * (8760 hr/yr) * (1 ton / 2000 lbs) * Emission factor(lb/ton)*(1 ton/2000lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1 - Weight % Volatiles) * (1 - Transfer efficiency) * (8760 hr/yr) * (1 ton / 2000 lbs)
Total = Sum of all worst case coatings and solvents used
Emission Factor (lbs VOC/ton) taken from "Unified Emission Factors for Open Molding of Composites", Composite Fabricators Association (CFA), April 1999

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Radiant Space Heaters

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
Plt ID: **113-00074**
Reviewer: **Patrick Brennan/MES**
Date: **September 28, 1999**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.15	1.3

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.001	0.005	0.0004	0.066	0.004	0.055

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Radiant Space Heaters
HAPs Emissions

Company Name: Structural Composites of Indiana, Inc.
Address City IN Zip: 1118 Gerber Street, Ligonier, Indiana 46563
CP: 113-11385
Plt ID: 113-00074
Reviewer: Patrick Brennan/MES
Date: September 28, 1999

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.380E-06	7.884E-07	4.928E-05	1.183E-03	2.234E-06

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.285E-07	7.227E-07	9.198E-07	2.497E-07	1.380E-06

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Grinding Operations

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
Plt ID: **113-00074**
Reviewer: **Patrick Brennan/MES**
Date: **September 28, 1999**

Control Efficiency*
98.5%

Emission Rates at the new source.

Facility	Potential Process weight rate of new booth (lbs/hr)	Potential Emissions from similar source (tons PM/ yr)	Process weight rate from similar source (lbs/hr)	Emission Factor (lbs PM /lb grinded)	PM Emission Rate before Controls (lbs/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Grinding Booth	919.8	8.76	420	0.0048	4.38	19.2	0.066	0.288
Total	919.8				**4.38**	**19.2**	**0.066**	**0.288**

*The control efficiency listed is the efficiency of a dry filter. The source may simultaneously operate a water wash system with a control efficiency of 95%.

Methodology

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the similar Global Glass, Inc. source (tons /yr) * (2000 lbs/ton / 8760 hrs/yr) / process weight rate of similar source (lbs /hr)
Emission Rate at new source before controls in lbs/hr = process weight rate (lbs/hr) * Emission Factor (lbs of PM /lb grinded)
Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) * (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
Grinding Booth	919.8	0.460	2.44	10.7

Methodology

Allowable Emissions = 4.10(Process Weight Rate)^0.67

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

Source Background and Description

Source Name:	**Structural Composites of Indiana, Inc.**
Source Location:	**1118 Gerber Street, Ligonier, Indiana 46767**
County:	**Noble**
SIC Code:	**3089**
Operation Permit No.:	**MSOP 113-11385-00074**
Permit Reviewer:	**Patrick T. Brennan**

The Office of Air Management (OAM) has reviewed an application from Structural Composites of Indiana, Inc. relating to the construction and operation of a customized fiberglass parts manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

There are no permitted facilities operating at this source during this review process.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment::

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, maximum capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, maximum capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(f) One (1) grinding booth equipped grinders, diamond cutters and various hand tools, with dry filters for air pollution control.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
GB 01-03	Gelcoat Booth	3.0	2.5	6,600	70
LB 04-07	Lamination Booth	3.0	2.5	6,600	70
GRD 08-11	Grinding Both	3.0	2.5	6,600	70
MR 12-13	Mold Repair	3.0	2.5	6,600	70

Note: All stacks are horizontal through the side walls of the building.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 28, 1999, with additional information received on December 9, 1999.

Emission Calculations

See pages 1 through 4 of Appendix A of this document (Emissions Calculations Spreadsheets) for detailed calculations of emissions from open molding fiberglass operations, grinding and natural gas combustion. The VOC (styrene) emissions from the open molding fiberglass operations are computed using the Unified Emissions Factors provided by the Composite Fabricators Association (CFA). VOC emissions from the resin storage tank were calculated to be 60.8 pounds per year using the Tanks 3.0 program.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	**Potential To Emit** (tons/year)
PM	692
PM_{10}	692
SO_2	0.0004
VOC	243
CO	0.055
NO_X	0.066

HAPs	**Potential To Emit** (tons/year)
Styrene	219
Methyl Methacrylate	24.0
Benzene	1.38E-6
Dichlorobenzene	7.88E-7
Formaldehyde	4.93E-5
Hexane	1.18E-3
Toluene	2.23E-6
Lead	3.29E-7
Cadmium	7.23E-7
Chromium	9.20E-7
Manganese	2.50E-7
Nickel	1.38E-6
TOTAL	243

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of Volatile Organic Compounds (VOC) and Particulate Matter (PM) are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

Because this is a new source, no previous emission data is available.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units. The source has agreed to accept a volatile organic HAPS limit of less that 100 tons per year in order to comply with 326 IAC 2-4.1-1 (New Source Toxics Control) and 326 IAC 8-1-6 (Best Available Control Technology). Because all significant VOC emissions from the source are volatile organic HAPs from fiberglass operations, this limit is also assumed to apply to VOC emissions. Emissions of PM and PM_{10} have been adjusted to reflect the reduced operating hours necessary to meet the volatile organic HAP limit and for the use of dry filters.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Gelcoat and Lamination Operations	4.15	4.15	0.0	<100	0.0	0.0	<100
Grinding	0.117	0.117	0.0	0.0	0.0	0.0	0.0
Resin Storage Tank	0.0	0.0	0.0	0.031	0.0	0.0	0.0
Combustion	0.001	0.005	0.0004	0.004	0.055	0.066	0.0
Total Emissions	4.27	4.27	0.0004	<100	0.055	0.066	<100

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed

pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Noble County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	**Emissions** (ton/yr)
PM	4.27
PM_{10}	4.27
SO_2	0.0004
VOC	<100
CO	0.055
NO_X	0.066
Single HAP	90.1
Combination HAPS	<100

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,

(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, and

(c) any combination of HAPS is greater than or equal to 25 tons/year.

This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) The resin storage tank is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110, Subpart Kb, because the capacity of the tank is less than 40 cubic meters.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC and $PM_{10.}$ Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemption Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

Since this new source has a potential to emit greater than 10 tons per year of any single HAP and 25 tons per year of any combination of HAPs, the requirements of 326 IAC 2-4.1-1 will apply. Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new customized fiberglass parts manufacturing operation shall be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 100 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) The emission factors approved for use by IDEM, OAM shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Production[1] Gel Coat	37
Tooling[2] Gel Coat	38
Production Resin	35
Tooling Resin	43

[1] Production refers to the manufacture of parts.
[2] Tooling refers to the manufacture of the molds from which parts are manufactured.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

Gel coats or resins with HAP monomer contents lower than those specified in the table in this subsection or additional emission reduction techniques approved by IDEM, OAM may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from higher than compliant HAP monomer content resin or gel coat) -(Emissions from compliant resin or gel coat) # (Emissions from compliant resin or gel coat) - (Emissions from lower than compliant HAP monomer content resin or gel coat and/or using other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (HAP monomer emission factor for resin or gel coat used, %);

EF, HAP monomer emission factor = emission factor, expressed as pounds (lbs) HAP emitted per ton of resin/gel coat processed, which is indicated by the HAP monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

(d) Optimized spray techniques according to a manner approved by IDEM, OAM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) For VOC- and/or HAP-containing materials:

(i) Cleanup solvent containers shall be used to transport solvent from drums to work.

(ii) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.

(iii) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(iv) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(v) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(3) All material storage containers shall be kept covered when not in use.

326 IAC 6-3-2 (Process Operations)

a. The particulate matter (PM) emissions from the grinding booth (GRD 08-11) will be limited to 2.44 pounds per hour when operating at a process weight rate of 920 pounds per hour. Since potential PM emissions after control by the dry filters are 0.066 pounds per hour, the grinding operations will comply with this rule. Compliance will be demonstrated by operating the dry filters at all times when the grinding is taking place.

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

$E = 4.10\ (0.46\ \text{tons/hr})^{0.67} = 2.44$ pounds per hour.

b. The particulate matter (PM) emissions from the gelcoat booth, lamination booth and mold preparation and final finish area will each be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

Compliance will be demonstrated by operating the dry filters at all times when the gelcoat booth, lamination booth and mold preparation and final finish area are in operation.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The new source is subject to 326 IAC 8-1-6 because the VOC potential emissions are greater than 25 tons per year, shall commence operation after January 1, 1980 and is governed by no other provisions of Article 8. Pursuant to this rule, a Best Available Control Technology (BACT) Analysis is required. This customized fiberglass parts manufacturing facility has not been constructed yet and the potential VOC emissions are 246 tons per year. Since 326 IAC 2-4.1-1 (New Source Toxics Control) is the most stringent authority for controlling VOC/HAPs emissions, the MACT determined under 326 IAC 2-4.1-1 shall be the BACT and shall satisfy the requirements of 326 IAC 8-1-6 (BACT).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows:

The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

(b) The applicant has been notified in writing that the air toxic emissions exceed the major source applicability levels stated by Section 112 of the Clean Air Act Amendments, and that it would be beneficial, both to the applicant and to the public, for the applicant to take steps to reduce or eliminate these air toxic emissions.

(c) See attached calculations in pages 1 through 4 of Appendix A to this document for detailed air toxic calculations.

Conclusion

The construction and operation of this the customized fiberglass parts manufacturing plant shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit MSOP 113-11385-00074.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name: **Structural Composites of Indiana, Inc.**
Source Location: **1118 Gerber Street, Ligonier, Indiana 46767**
County: **Noble**
Construction Permit No.: **MSOP 113-11385-00074**
SIC Code: **3089**
Permit Reviewer: **Patrick T. Brennan**

On December 29, 1999, the Office of Air Management (OAM) had a notice published in the News/Sun, Kendallville, Indiana, stating that Structural Composites of Indiana, Inc. had applied for a construction permit to construct and operate the customized fiberglass parts manufacturing plant with dry filters for air pollution control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On February 4, 2000, Teri L. Schenk, on behalf of Structural Composites, submitted comments on the proposed construction permit. The comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded.**

Comment 1:

Page 4 of 24 A.2: We would like a provision written into this area which states that the description Facility Description 325 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 1:

The second sentence of the introduction to Section A, page 4 of 24, states "The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions."

Comment 2:

Page 4 of 24 A.2 items a & b: The source has agreed to take a 100 ton facility cap on emissions. Limiting the amount of resin and gelcoat per hour should be at their discretion. Part sizes vary, calculations are based on worst case scenario and as long as they stay under the 100 ton per 12 consecutive months, there should be no limits per hour.

Response 2:

OAM recognizes that the capacity descriptions in the equipment list do not represent enforceable hourly limits. The descriptions for items (a) and (b) have have been changed as follows:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

Comment 3:

Page 17 of 24 Section D.1: We would like a provision written into this box area which states the following: Facility Description 326 IAC 2-7-5(15): The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Response 3:

The emissions unit description box in Section D.1 has been changed as follows:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description - A customized fiberglass part manufacturing source consisting of the following:

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, ~~maximum~~ **approximate** capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

Source Background and Description

Source Name:	**Structural Composites of Indiana, Inc.**
Source Location:	**1118 Gerber Street, Ligonier, Indiana 46767**
County:	**Noble**
SIC Code:	**3089**
Operation Permit No.:	**MSOP 113-11385-00074**
Permit Reviewer:	**Patrick T. Brennan**

The Office of Air Management (OAM) has reviewed an application from Structural Composites of Indiana, Inc. relating to the construction and operation of a customized fiberglass parts manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

There are no permitted facilities operating at this source during this review process.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment::

(a) One (1) gelcoat booth equipped with air-assisted airless spray guns with dry filters for air pollution control, maximum capacity 184 pounds of resin per hour.

(b) One (1) lamination booth equipped with flow coater equipment with dry filters for air pollution control, maximum capacity 720 pounds of resin per hour.

(c) One (1) mold preparation and final finish area equipped with spray guns with dry filters for air pollution control.

(d) One (1) bulk resin storage tank, capacity 6000 gallons.

(e) Five (5) radiant heaters, natural gas-fired, capacity 0.03 MMBtu per hour each.

(f) One (1) grinding booth equipped grinders, diamond cutters and various hand tools, with dry filters for air pollution control.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
GB 01-03	Gelcoat Booth	3.0	2.5	6,600	70
LB 04-07	Lamination Booth	3.0	2.5	6,600	70
GRD 08-11	Grinding Both	3.0	2.5	6,600	70
MR 12-13	Mold Repair	3.0	2.5	6,600	70

Note: All stacks are horizontal through the side walls of the building.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 28, 1999, with additional information received on December 9, 1999.

Emission Calculations

See pages 1 through 4 of Appendix A of this document (Emissions Calculations Spreadsheets) for detailed calculations of emissions from open molding fiberglass operations, grinding and natural gas combustion. The VOC (styrene) emissions from the open molding fiberglass operations are computed using the Unified Emissions Factors provided by the Composite Fabricators Association (CFA). VOC emissions from the resin storage tank were calculated to be 60.8 pounds per year using the Tanks 3.0 program.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	**Potential To Emit** (tons/year)
PM	692
PM_{10}	692
SO_2	0.0004
VOC	243
CO	0.055
NO_X	0.066

HAPs	**Potential To Emit** (tons/year)
Styrene	219
Methyl Methacrylate	24.0
Benzene	1.38E-6
Dichlorobenzene	7.88E-7
Formaldehyde	4.93E-5
Hexane	1.18E-3
Toluene	2.23E-6
Lead	3.29E-7
Cadmium	7.23E-7
Chromium	9.20E-7
Manganese	2.50E-7
Nickel	1.38E-6
TOTAL	243

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of Volatile Organic Compounds (VOC) and Particulate Matter (PM) are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

Because this is a new source, no previous emission data is available.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units. The source has agreed to accept a volatile organic HAPS limit of less that 100 tons per year in order to comply with 326 IAC 2-4.1-1 (New Source Toxics Control) and 326 IAC 8-1-6 (Best Available Control Technology). Because all significant VOC emissions from the source are volatile organic HAPs from fiberglass operations, this limit is also assumed to apply to VOC emissions. Emissions of PM and PM_{10} have been adjusted to reflect the reduced operating hours necessary to meet the volatile organic HAP limit and for the use of dry filters.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Gelcoat and Lamination Operations	4.15	4.15	0.0	<100	0.0	0.0	<100
Grinding	0.117	0.117	0.0	0.0	0.0	0.0	0.0
Resin Storage Tank	0.0	0.0	0.0	0.031	0.0	0.0	0.0
Combustion	0.001	0.005	0.0004	0.004	0.055	0.066	0.0
Total Emissions	4.27	4.27	0.0004	<100	0.055	0.066	<100

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed

pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Noble County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	**Emissions** (ton/yr)
PM	4.27
PM_{10}	4.27
SO_2	0.0004
VOC	<100
CO	0.055
NO_X	0.066
Single HAP	90.1
Combination HAPS	<100

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,

(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, and

(c) any combination of HAPS is greater than or equal to 25 tons/year.

This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) The resin storage tank is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110, Subpart Kb, because the capacity of the tank is less than 40 cubic meters.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC and $PM_{10.}$ Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemption Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

Since this new source has a potential to emit greater than 10 tons per year of any single HAP and 25 tons per year of any combination of HAPs, the requirements of 326 IAC 2-4.1-1 will apply. Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new customized fiberglass parts manufacturing operation shall be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 100 tons per twelve (12) consecutive month period. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) The emission factors approved for use by IDEM, OAM shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Production[1] Gel Coat	37
Tooling[2] Gel Coat	38
Production Resin	35
Tooling Resin	43

[1] Production refers to the manufacture of parts.
[2] Tooling refers to the manufacture of the molds from which parts are manufactured.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

Gel coats or resins with HAP monomer contents lower than those specified in the table in this subsection or additional emission reduction techniques approved by IDEM, OAM may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from higher than compliant HAP monomer content resin or gel coat) -(Emissions from compliant resin or gel coat) # (Emissions from compliant resin or gel coat) - (Emissions from lower than compliant HAP monomer content resin or gel coat and/or using other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (HAP monomer emission factor for resin or gel coat used, %);

EF, HAP monomer emission factor = emission factor, expressed as pounds (lbs) HAP emitted per ton of resin/gel coat processed, which is indicated by the HAP monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

(d) Optimized spray techniques according to a manner approved by IDEM, OAM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) For VOC- and/or HAP-containing materials:

(i) Cleanup solvent containers shall be used to transport solvent from drums to work.

(ii) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.

(iii) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(iv) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(v) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(3) All material storage containers shall be kept covered when not in use.

326 IAC 6-3-2 (Process Operations)

a. The particulate matter (PM) emissions from the grinding booth (GRD 08-11) will be limited to 2.44 pounds per hour when operating at a process weight rate of 920 pounds per hour. Since potential PM emissions after control by the dry filters are 0.066 pounds per hour, the grinding operations will comply with this rule. Compliance will be demonstrated by operating the dry filters at all times when the grinding is taking place.

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

$E = 4.10\ (0.46\ \text{tons/hr})^{0.67} = 2.44$ pounds per hour.

b. The particulate matter (PM) emissions from the gelcoat booth, lamination booth and mold preparation and final finish area will each be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

Compliance will be demonstrated by operating the dry filters at all times when the gelcoat booth, lamination booth and mold preparation and final finish area are in operation.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The new source is subject to 326 IAC 8-1-6 because the VOC potential emissions are greater than 25 tons per year, shall commence operation after January 1, 1980 and is governed by no other provisions of Article 8. Pursuant to this rule, a Best Available Control Technology (BACT) Analysis is required. This customized fiberglass parts manufacturing facility has not been constructed yet and the potential VOC emissions are 246 tons per year. Since 326 IAC 2-4.1-1 (New Source Toxics Control) is the most stringent authority for controlling VOC/HAPs emissions, the MACT determined under 326 IAC 2-4.1-1 shall be the BACT and shall satisfy the requirements of 326 IAC 8-1-6 (BACT).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows:

The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

(b) The applicant has been notified in writing that the air toxic emissions exceed the major source applicability levels stated by Section 112 of the Clean Air Act Amendments, and that it would be beneficial, both to the applicant and to the public, for the applicant to take steps to reduce or eliminate these air toxic emissions.

(c) See attached calculations in pages 1 through 4 of Appendix A to this document for detailed air toxic calculations.

Conclusion

The construction and operation of this the customized fiberglass parts manufacturing plant shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit MSOP 113-11385-00074.

Reinforced Plastics and Composites

Company Name: Structural Composites of Indiana, Inc.
Address City IN Zip: 1118 Gerber Street, Ligonier, Indiana 46563
MSOP: 113-11385
Plt ID: 113-00074
Reviewer: Patrick Brennan/MES
Date: September 28, 1999

Material (Application Method)	Density (lb/gal)	Weight % Monomer VOC	CFA Unified Emission Factor (lbs/ton)	Gallons per unit	Units per hour	Pounds VOC per hour	Pounds VOC per day	Tons of VOC per year	PM tons per year	Transfer Efficiency
Polar White Gelcoat										
(Air Assisted Airless)										
Styrene	10.88	32.0%	284.80	0.84	20.00	26.03	624.68	114.00	128.10	75.00%
Methyl Methacrylate	10.88	4.0%	60.00	0.84	20.00	5.48	131.60	24.02	0.00	75.00%
Tooling Gelcoat										
(Air Assisted Airless)										
Styrene	9.86	36.9%	377.00	0.0134	1.00	0.0250	0.60	0.109	0.092	75.00%
Methyl Methacrylate	9.86	3.0%	45.00	0.0134	1.00	0.00	0.07	0.01	0.00	75.00%
Resin Layup (Flow Coat)										
Styrene	9.40	31.0%	66.34	3.83	20.00	23.88	573.21	104.61	544.03	75.00%
Tooling Resin (Flow Coat)										
Styrene	10.00	47.0%	115.00	0.134	1.000	0.077	1.85	0.34	0.78	75.00%
Clean-up solvent - Acetone	6.88	0.0%	0.00	0.16	20.00	0.00	0.00	0.00	0.00	100.00%
				Total		**55.50**	**1332.02**	**243.09**	**672.99**	
				VOC Control	0%					
				PM Control	98.5%					
				Potential Before Controls				**243.09**	**672.99**	
				Potential After Controls				**243.09**	**10.09**	
				With VOC Limited to less than 100 tons per year, Limited PM after controls =					4.15	

Note: Because All VOCs are HAPs, VOC and HAPs calculations are combined into one spreadsheet

METHODOLOGY

Potential VOC Pounds per Hour =Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * Emission factor (lb/ton)*(1 ton/2000 lbs)
Potential VOC Pounds per Day =Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * (24 hrs / 1 day) * Emission factor(lb/ton)*(1 ton/2000 lbs)
Potential VOC Tons per Year = Density (lb/gal)* Gal of Material (gal/unit) * Maximum (unit/hr) * (8760 hr/yr) * (1 ton / 2000 lbs) * Emission factor(lb/ton)*(1 ton/2000lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1 - Weight % Volatiles) * (1 - Transfer efficiency) * (8760 hr/yr) * (1 ton / 2000 lbs)
Total = Sum of all worst case coatings and solvents used
Emission Factor (lbs VOC/ton) taken from "Unified Emission Factors for Open Molding of Composites", Composite Fabricators Association (CFA), April 1999

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Radiant Space Heaters

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
Plt ID: **113-00074**
Reviewer: **Patrick Brennan/MES**
Date: **September 28, 1999**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.15	1.3

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.001	0.005	0.0004	0.066	0.004	0.055

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Radiant Space Heaters
HAPs Emissions

Company Name: Structural Composites of Indiana, Inc.
Address City IN Zip: 1118 Gerber Street, Ligonier, Indiana 46563
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HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.380E-06	7.884E-07	4.928E-05	1.183E-03	2.234E-06

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.285E-07	7.227E-07	9.198E-07	2.497E-07	1.380E-06

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Grinding Operations

Company Name: **Structural Composites of Indiana, Inc.**
Address City IN Zip: **1118 Gerber Street, Ligonier, Indiana 46563**
MSOP: **113-11385**
Plt ID: **113-00074**
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Control Efficiency*
98.5%

Emission Rates at the new source.

Facility	Potential Process weight rate of new booth (lbs/hr)	Potential Emissions from similar source (tons PM/ yr)	Process weight rate from similar source (lbs/hr)	Emission Factor (lbs PM /lb grinded)	PM Emission Rate before Controls (lbs/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Grinding Booth	919.8	8.76	420	0.0048	4.38	19.2	0.066	0.288
Total	919.8				**4.38**	**19.2**	**0.066**	**0.288**

*The control efficiency listed is the efficiency of a dry filter. The source may simultaneously operate a water wash system with a control efficiency of 95%.

Methodology

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the similar Global Glass, Inc. source (tons /yr) * (2000 lbs/ton / 8760 hrs/yr) / process weight rate of similar source (lbs /hr)
Emission Rate at new source before controls in lbs/hr = process weight rate (lbs/hr) * Emission Factor (lbs of PM /lb grinded)
Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) * (1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
Grinding Booth	919.8	0.460	2.44	10.7

Methodology

Allowable Emissions = 4.10(Process Weight Rate)^0.67